

Champley. Size $4\frac{3}{4}$ inches long and $3\frac{1}{4}$ broad. Dark yellow markings, all at the thick end (Grieve, No. 63, page 33, appendix).

Egg No. 8 (Plate XIV, upper figure) was bought from the same. Size $4\frac{3}{8}$ inches long and $2\frac{7}{8}$ broad. Ground color dark yellow, marked all over (Grieve, 65, page 34, appendix).

These eggs are all in good condition, but of course end blown and the holes seem large in comparison to the way eggs are blown to-day.

ORNITHOLOGY OF A CHURCHYARD.

BY B. S. BOWDISH.

EVEN under unpromising conditions, and in unexpected places, there is often something for the bird-student to investigate. This is illustrated by some surprising records from city parks, and even from the smaller green spots, oases in the great desert of brick and mortar.

As such a record I here submit for whatever it may be worth, the results of observations in Saint Paul's Churchyard, New York City, made mostly during intervals of a few moments at noon, and occasionally in the morning, and covering the migration periods of spring and fall of 1903, and spring of 1904.

Saint Paul's Church property is situated nearly midway between the East and North Rivers, fronting east on Broadway, Church Street at the rear, Vesey Street on the north side and Fulton Street on the south, and it is thus in one of the busiest and noisiest sections of the city.

At the rear of the property, along Church Street, there is the constant rumble and roar of the elevated railroad. This church property is about 332 feet long by 177 feet wide, of which area the church occupies a space about 78 by 120 feet at the Broadway end, while at the Church Street end the Church School takes off another slice about 30 feet wide. The space remaining consists of the main yard at the rear of the church, between it and the

school, and a wing on either side of the church, each about 120 feet long by 48 feet wide. A narrow walk completes the circuit of the churchyard, about twenty feet from its outer edge. The grounds contain three large, ten medium, and forty smaller trees, not counting several that were being removed at the time of my count, and a number of shrubs and flowers, grass-plots and grass-grown graves. Even the most nerve-hardened native bird would hardly select such a spot for a summer home, nor attempt to take up winter quarters there.

Throughout the greater part of the summer and winter the noisy flock of English Sparrows domiciled here holds undisputed sway. It seems probable that the native birds that occur in the churchyard during migrations are such as are attracted to the green spot while passing in their flights directly over it, and that they are in no case stragglers from the temporary residents of the near-by country or parks. I have visited the churchyard many times in summer and winter, and during these periods between regular migratory seasons, I have yet to see or hear of the occurrence of a native bird. I have no spring record later than May, and no fall record after November, save the one of the Tree Sparrow, December 8, in which case it could not be fairly said that the season of migration was past.

From my data I am inclined to believe, too, that the bird movement of this very restricted area reflects, in a small way, that of the outside country. When the greatest number of birds was seen in the churchyard, it generally transpired that a bird-wave was on in the country just outside the city, which was also reflected in Central Park.

Misfortune is said to make strange bed-fellows, and certainly migration produces unexpected incongruities between birds and environment. Species whose sociability about the homes of man in the country would lead one to expect them to be among the first and most common to occur in the city parks and green spots, seem in many cases to be strangely wanting in the records for such places, while others of notably retiring habits, surprise one by their unexpected appearance in the crowded marts of civilization. The Woodcock has been recorded on the lawn of the American Museum of Natural History and in Trinity Churchyard, while

my Saint Paul's records of Song and Chipping Sparrows, Robin, Yellow Warbler, and some other of our more familiar birds are surprisingly few. According to the indications of the three seasons covered by my observations, the Yellow-bellied Sapsucker appears to be a regular visitor, which seems rather surprising.

Observations covering the period from the first to the last record were: for 1903, spring, 5 days, no birds; 19 days, 18 species, 59 individuals: total, 24 days; fall, 25 days, no birds; 47 days, 26 species, 187 individuals: total 72 days. For 1904, spring, 7 days, no birds; 24 days, 22 species, 87 individuals: total 31 days. Total for three seasons of observation: 37 days, no birds; 90 days, 40 species, 328 individuals, 117 days observation. This gives an average of one bird in 2.25 days, and of 3.64 individuals per day of observation.

The list of birds noted is as follows:

Yellow-bellied Sapsucker, 5 records, — 1903, April 29, 1; Sept. 25, 1; Oct. 12, 2; Oct. 22, 1; 1904, April 6, 1; total, 6.

Red-bellied Woodpecker, 1 record, — Oct. 1, 1903, 1.

Phœbe, 3 records, — 1903, Sept. 12, 1; Sept. 25, 1; Oct. 15, 1; total, 3.

Least Flycatcher, 5 records, — 1903, May 19, 3; May 22, 1; Sept. 24, 1; Sept. 25, 1; 1904, May 13, 1; total, 7.

White-crowned Sparrow, 2 records, — 1904, April 25, 2; April 26, 2; total, 4 (probably only two birds).

White-throated Sparrow, 16 records, — 1903, May 1, 1; May 16, 1; May 18, 1; May 20, 1; May 26, 1; May 28, 1; Sept. 24, 1; Sept. 26, 1; Sept. 30, 1; Oct. 19, 2; Oct. 23, 1; Oct. 24, 1; 1904, April 25, 2; April 26, 3; May 10, 1; May 11, 1; total, 19.

Tree Sparrow, 1 record, — Dec. 8, 1903, 1.

Chipping Sparrow, 6 records, — 1903, May 11, 1; 1904, April 18, 2; May 3, 1; May 9, 1; May 11, 1; May 12, 1; total, 7.

Field Sparrow, 5 records, — 1903, Oct. 8, 1; 1904, April 18, 1; April 28, 1; April 29, 1; May 2, 1; total, 5.

Slate-colored Junco, 24 records, — 1903, April 29, 1; Sept. 26, 1; Sept. 29, 2; Sept. 30, 3; Oct. 2, 1; Oct. 3, 1; Oct. 12, 1; Oct. 13, 1; Oct. 14, 1; Oct. 22, 3; Oct. 23, 1; Oct. 24, 1; Oct. 26, 3; Oct. 27, 2; Oct. 28, 2; Oct. 29, 6; Oct. 30, 1; Oct. 31, 5; Nov. 2, 1; Nov. 5, 1; Nov. 6, 1; Nov. 10, 1; Nov. 16, 1; 1904, April 30, 1; total, 45.

Song Sparrow, 1 record, — April 30, 1904, 1.

Towhee, 7 records, — 1903, May 1, male; May 6, male; May 7, female; Oct. 3, female; 1904, May 5, female; May 10, 2 females; May 13, male; May 16, female; total, 9.

Indigo Bunting, 1 record, — May 12, 1904, bright male.

- Scarlet Tanager, 1 record,— May 14, 1904, male.
- Red-eyed Vireo, 2 records,— 1904, May 12, 1; May 13, 1; total, 2.
- Blue-winged Warbler, 2 records,— 1903, Sept. 8, 1; Sept. 25, 1; total, 2.
- Parula Warbler, 1 record,— May 5, 1904, 1.
- Yellow Warbler, 3 records,— 1903, May 19, 1; May 22, 1; Sept. 4, 1; total, 3.
- Black-throated Blue Warbler, 1 record,— Oct. 22, 1903, 1.
- Myrtle Warbler, 1 record,— Oct. 13, 1904, 1.
- Magnolia Warbler, 1 record,— May 20, 1903, 1.
- Palm Warbler, 1 record,— Oct. 13, 1903, 1.
- Ovenbird, 11 records,— 1903, May 15, 1; May 16, 2; May 18, 2; May 19, 2; Sept. 1, 1; 1904, Apr. 25, 1; Apr. 26, 1; May 5, 1; May 16, 1; May 17, 1; May 18, 1; total, 14.
- Water Thrush, 1 record,— May 19, 1903, 1.
- Northern Yellow-throat, 7 records,— 1903, May 14, 1; May 22, 1; Oct. 12, 1; 1904, May 11, 1; May 20, 2; May 21, 1; May 24, 2; total, 9.
- Canadian Warbler, 1 record,— May 21, 1903, 1.
- American Redstart, 5 records,— 1903, May 19, 1; Sept. 1, 2; Sept. 3, 1; Sept. 4, 1; 1904, May 20, 1; total, 6.
- Catbird, 10 records,— 1903, May 9, 1; May 15, 1; May 18, 1; May 20, 1; Sept. 29, 1; 1904, May 5, 1; May 7, 2; May 12, 1; May 13, 1; May 20, 1; total, 11.
- Brown Thrasher, 14 records,— 1903, May 4, 1; May 15, 1; May 16, 1; May 18, 1; May 20, 3; May 22, 2; May 23, 1; May 26, 1; May 27, 2; Sept. 30, 1; Oct. 3, 1; 1904, May 5, 2; May 16, 1; May 24, 1; total, 19.
- Winter Wren, 1 record.— Oct. 28, 1904, 1.
- Brown Creeper, 1 record.— Oct. 12, 1903, 1.
- Red-breasted Nuthatch, 3 records,— 1903, Sept. 1, 1; Sept. 8, 1; Sept. 24, 1; total, 3.
- Chickadee, 14 records,— 1903, Sept. 15, 3; Sept. 21, 3; Sept. 25, 7; Sept. 29, 2; Sept. 30, 2; Oct. 1, 4; Oct. 6, 2; Oct. 7, 2; Oct. 10, 1; Oct. 12, 2; Oct. 16, 3; Oct. 19, 1; Oct. 30, 1; total, 33.
- Golden-crowned Kinglet, 3 records,— 1903, Oct. 21, 1; Oct. 29, 1; Oct. 31, 1; total, 3.
- Ruby-crowned Kinglet, 5 records,— 1903, Oct. 13, 2; Oct. 14, 3; Oct. 21, 2; Oct. 23, 1; Oct. 24, 1; total, 9.
- Wood Thrush, 2 records,— 1903, Oct. 14, 1; 1904, May 17, 1; total, 2.
- Wilson's Thrush, 5 records,— 1903, May 19, 1; 1904, May 12, 2; May 17, 1; May 20, 1; May 24, 2; total, 7.
- Olive-backed Thrush, 13 records,— 1903, May 22, 2; May 27, 1; Sept. 8, 2; Sept. 9, 1; Sept. 29, 2; Sept. 30, 1; Oct. 1, 1; Oct. 14, 1; 1904, May 11, 1; May 12, 1; May 13, 1; May 18, 1; May 20, 1; total, 16.
- Hermit Thrush, 32 records,— 1903, April 29, 6; May 4, 1; Sept. 30, 2; Oct. 6, 1; Oct. 12, 2; Oct. 13, 2; Oct. 14, 8; Oct. 15, 4; Oct. 16, 1; Oct. 21, 1; Oct. 23, 3; Oct. 24, 2; Oct. 26, 2; Oct. 27, 4; Oct. 28, 2; Oct. 29, 2; Oct. 30, 2; Oct. 31, 4; Nov. 2, 1; Nov. 4, 3; Nov. 5, 1; Nov. 9, 1;

Nov. 10, 1; Nov. 11, 1; Nov. 16, 1; Nov. 23, 2; Nov. 24, 2; 1904, April 25, 8; April 26, 2; April 30, 2; total, 79.

American Robin, 2 records,—1903, Oct. 21, 1; Oct. 22, 1; total, 2.

Bluebird, 1 record,—Nov. 6, 1903, 2.

In the record above given, where a species occurred on consecutive dates, doubtless in some cases the same individual remained two or more days. In one instance, at least, this was certainly the case. A Hermit Thrush, one of four noted October 15, 1903, had a bar of light yellowish on the left wing. This bird was again noted on the 16th, the only one seen on the latter date. In the majority of cases, however, such records probably represent different individuals, and as far as I am able to judge, the birds make but a brief stop in the churchyard. In some cases the birds noted in the morning were gone by noon, and others not noted in the morning had appeared.

Truly Saint Paul's Churchyard seems to be for many migrant birds an oasis in a desert of brick and mortar, a spot where tired and hungry individuals may drop down to rest and feed, and incidentally to gladden the eye and quicken the pulse of the city-confined nature lover.

A Robin (young of the year) noted August 30, will perhaps necessitate the modification of the statement regarding absence of birds during summer, though it is quite possible that this individual had begun a migratory movement.

With the exception of the Robin above referred to, the first migrant (a Water-Thrush) was not noted until Sept. 13, and the indications of the churchyard evidence were that the fall migration was either begun late, or that the earlier migration was hurriedly performed, with few stops.